

WHAT IS CLAIMED IS:

1. A method of visualizing and retrieving a data file from a set of data files comprising:

5 displaying a plurality of images representing corresponding data files on a display device using a first distance metric between each data file; redisplaying a portion of the images on the display device using a refined distance metric; and performing at least one of retrieving, marking, and selecting at least one desired data file.

10 2. The method of claim 1, further comprising: repeating the redisplaying step until a desired data file is identifiable.

15 3. The method of claim 1, wherein the first distance metric is calculated by a method comprising: computing a feature vector for each data file; and calculating the first distance metric between each data file using a first subset of data contained in the feature vector.

20 4. The method of claim 3, wherein the refined distance metric is calculated by a method comprising: calculating a second distance metric between each data file using a second subset of data contained in the feature vector which is greater than the first subset.

5. The method of claim 4, wherein the step of computing the feature vector comprises:

computing the feature vector for each data file before starting the method;

storing the feature vector for each data file; and
accessing the feature vector for each data file.

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6. The method of claim 4, wherein each feature vector has a length of at least eight.

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7. The method of claim 4, wherein the feature vector includes at least one of a color feature and a texture feature.

8. The method of claim 4, wherein the feature vector includes at least one of a color histogram, color moment, color coherence histogram, Multiresolution Simultaneous Autoregressive (MRSAR) Model, coarseness, and directionality.

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9. The method of claim 1, wherein the first distance metrics are mapped into an N-dimensional space using FastMap for displaying and wherein the refined distance metrics are mapped into an N-dimensional space using FastMap for redisplaying.

10. The method of claim 9, wherein N is two or three.

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11. The method of claim 1, wherein the data files are image files.

12. The method of claim 1, wherein the data files are video files.

13. The method of claim 1, further comprising:
establishing a fixed scale that spans a maximum distance between
the plurality of data files; and
indicating a relative position on the fixed scale for the redisplay of
the portion of the images, thereby providing the user with a reference frame.

14. The method of claim 1, wherein the fixed scale is at least one of a
linear scale, a logarithmic scale, and a hyperbolic scale.

15. The method of claim 1, further comprising:
providing a display depth indication that represents an amount of
overlapping of images on the display; and
scrolling to view images that were previously not viewable due to
overlapping of the images.

16. The method of claim 1, wherein the portion of the images
redisplayed is graphically selected by the user.

17. A method of interactively retrieving a data file from a set of data
files in real time comprising:
displaying a plurality of images, each image corresponding to a data
file, on a display device using a first distance metric between each data file;
interactively selecting, by a user, a portion of the images;
redisplaying the portion of the images in real time on the display
device using a refined distance metric; and
retrieving a desired data file.

18. The method of claim 17, wherein the first distance metric is
calculated by a method comprising:

computing a feature vector for each data file; and
calculating the first distance metric between each data file using a
first subset of data contained in the feature vector.

19. The method of claim 18, wherein the refined distance metric is
5 calculated by a method comprising:
calculating a second distance metric between each data file using a
second subset of data contained in the feature vector which is greater than the first
subset.

20. The method of claim 19, wherein the first distance metrics are
10 mapped into a N-dimensional space using FastMap for displaying and second
distance metrics are mapped into a N-dimensional space using FastMap for
redisplaying.